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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of **Donald McCoy, et al.**	)))
Serial No.: **10/620,911**	)) Art Unit 3694
Confirmation: **8962**	))
Filed: **July 15, 2003**	)) Patent Examiner) Hai Tran
Title: **AUTOMATED BANKING MACHINE BOOTABLE MEDIA AUTHENTICATION**	))))

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION PURSUANT TO 37 C.F.R. § 1.132

Sir:

I, Patrick C. Green, hereby declare as follows:

1.   I am a former employee of Diebold, Incorporated and/or InterBold, a wholly

owned subsidiary of Diebold, Incorporated (collectively referred to hereafter as

"Diebold"). I was employed by Diebold as an engineer and engineering manager in the

development of automated banking machines such as automated teller machines (ATMs)

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and associated computer software for those machines. I retired from Diebold in 2007. I began working in the automated banking machine industry in approximately 1974.

2.   Based on my knowledge and experience, a person having ordinary skill in the art of automated banking machines at time the present invention was made would have a four-year college degree in engineering, such as mechanical or electrical engineering, and have at least four years of experience in designing automated banking machines (or equivalent years of working experience in the design of automated banking machines).

3.   I have reviewed the following references cited in the above-mentioned application ("application"):

- Cromer, et al., U.S. Publication No. 2002/0166072 ("Cromer").

4.   I have reviewed the subject matter disclosed in the application.

5.   I have reviewed the claimed subject matter as set forth in the amendment filed in the Response dated August 12, 2009. A copy of the reviewed claims is attached.

6.   There are significant differences between what is disclosed in the applied art of Cromer and what is claimed. For example, with respect to claims 1, 14, 16-17, 19-20, and 22, nowhere does the Cromer teach or suggest a BIOS of a computer of an automated banking machine (or any other machine) that specifies which of a plurality of storage device drives corresponds to a default storage device drive that does not require an input of a first BIOS password, and which of the plurality of storage device drives corresponds

to the at least one alternative storage device drive that does require the input of the BIOS

boot password, such that: when the bootable media of the at least one alternative storage

device drive is detected, the booting of the computer includes requiring at least once for a

user to input a password . . .; and when the bootable media of the at least one alternative

storage device drive is not detected, the computer is booted responsive to a boot record

on the bootable media of the default storage device drive without requiring a user to input

the BIOS boot password.

7.   The recited subject matter (noted in paragraph 6) that is not disclosed or

suggested in Cromer, would also not be considered obvious in view of Cromer by a

person having ordinary skill in the art at the time of the invention.

For example, each of these claims recites a BIOS of an automated banking

machine that specifies a drive that (when detected) requires the manual input by a user of

a BIOS boot password prior to booting from the drive. Also the BIOS of the automated

banking machine specifies a drive that does not require the manual input by a user of a

BIOS boot password prior to booting from the drive.

This arrangement enables the automated machine to boot from its default internal

hard drive automatically without user intervention. However, when an authorized

technician wishes to conduct maintenance on the machine, the technician may attach a

bootable portable drive/media, which will be booted only after the person inputs a

password that matches a password stored in the BIOS. With this configuration, the

automated banking machine is operative to be booted by any portable drive and/or media

the technician may chooses to use, as long as the technician can manually input the

proper boot password stored in the BIOS.

Nowhere does Cromer disclose or suggest an automated banking machine or any other machine with such features and capabilities. Further, even with respect to generic PCs, Cromer does not disclose or suggest these features. For example, although Cromer shows (in Figure 2 and paragraph [0026]) that a password may be required to boot a device, as shown in Figure 2, item 128, and paragraph [0027], this password is not a user inputted password, but rather is acquired by the computer interrogating the device for the serial and model number stored thereon. In Cromer, a computer boots to a detected drive by verifying (when configured to do so) that a hash of data stored on the drive (e.g. a model and serial number) matches corresponding data stored in a BIOS (paragraph [0027]). Cromer does not disclose or suggest, (or have any apparent reason for) after detection of bootable media for a designated drive, requiring that a user manually input a BIOS boot password in order to boot from the drive.

Thus Cromer clearly does not disclose or suggest all of the features, relationships, and steps recited in the claims. In addition, it would not be obvious to one of ordinary skill in the art at the time of the invention to modify Cromer in a manner that would correspond to the recited subject matter. In paragraph [0010], Cromer holds out as a problem with the prior art, that "it is a trivial exercise for an unauthorized user to connect his own hard disk drive in lieu of the password protected hard disk drive". Cromer's solution to making computers more secure and to prevent any portable unknown drive from being used to boot a computer, is to require the computer to be configured to only boot from devices that internally include data (e.g. model and serial number) that has been previously coupled to the BIOS of the computer. By calling out the disadvantage of

using unknown hard disk drives (e.g. in paragraphs [0010] and [0028]), Cromer teaches away from Applicants' invention (which enables a technician to boot from a new and unknown drive/media) by teaching a system that prevents an unknown device (not coupled to a BIOS) from being booted. Further, since Cromer has provided a method for securely booting from drives (via coupling the drive to the BIOS), there is no apparent reason for one of ordinary skill in the art at the time of the invention to further modify Cromer to require the input of a BIOS boot password, prior to booting from the drive.

In addition, Cromer does not disclose or suggest modifying an automated banking machine to includes its described BIOS. An automated banking machine includes ports, such as USB ports inside a locked enclosure and/or a locked safe. Cromer does not provide any teaching or suggestion that such physical security is inadequate.

Further paragraph [0007] of Cromer describes the lack of security associated with an unattended conventional PC. However, automated banking machines are not conventional PCs. For example, even when automated banking machines are unattended, the physical security of ports inside a locked enclosure or chest makes them non-analogous to a vulnerable unattended PC. Thus Cromer does not provide any motivation to one of ordinary skill in the art at the time of the invention to modify an automated banking machine to use his described BIOS.

This recited subject matter does not predictably result from a combination of the applied art, to one of ordinary skill in the art at the time of the invention.
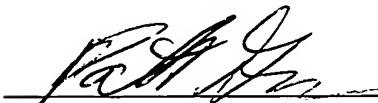
8.   In addition, a person of ordinary skill in the art at the time of the invention would consider the applied art as being inoperative and non-enabling with respect to the subject

matter of the claims in the present application. For example, even if there was a generic need in the prior art to make ATMs more secure, such a need could be fulfilled by an unlimited and/or unpredictable number of different features unrelated to the present claims (e.g., hardware dongles, encrypted hard drives, longer passwords, biometric input devices, etc.). With respect to the subject matter of the present claims, a person of ordinary skill in the art could not make or use the claimed invention from the applied art (even if coupled with information known in the art) without undue experimentation. Nowhere does Cromer provide any enabling disclosure which would enable a person of ordinary skill in the art at the time of the invention to hinge a requirement to provide, or not provide a manual input of a BIOS boot password based on the detection of an alternative bootable drive. Such subject matter is not found in Cromer and one of ordinary skill in the art at the time of the invention would not find that such subject matter predictably results from the teachings of Cromer. Cromer does not provide a sufficient enabling disclosure to use or make an automated banking machine have a new BIOS that is configurable with respect to specifying both: that one bootable drive if detected by the BIOS requires a manual input of a BIOS password by a user before booting; and that a second bootable drive does not require manual input by a user of a BIOS password before booting.

9.   The applied references do not disclose or suggest and enable all of the features relationships, and steps, recited in the claims. Further, a person of ordinary skill in the art at the time of the invention would not regard the pending claims as being obvious in view of a combination of the applied references based on any of the following rationales:

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combining prior art elements according to known methods to yield predictable results; simple substitution of one known element for another to obtain predictable results; use of known techniques to improve similar devices (methods, or products) in the same way; applying known techniques to a known device (method, or product) ready for improvement to yield predictable results; choosing from a finite number of identified, predictable solutions, each with a reasonable expectation of success; known work in one field of endeavor prompting variations of such known work for use in either the same field or a different field based on design incentives or other market forces in a case where the variations would have been predictable to one of ordinary skill in the art; some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify or to combine prior art reference teachings to arrive at the claimed invention. In conclusion, it was not known nor would it have been obvious to a person having ordinary skill in the art having full view of the cited references, to have produced the claimed features, relationships, and steps.

I hereby declare that all statements herein of my own knowledge are true, that all statements made on information and belief are believed to be true, and that the statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both (18 U.S.C. §1001), and may jeopardize the validity of the application or any patent issuing thereon.

_____   SEPT 21, 2009 _____

Patrick C. Green   Date

1. A method comprising:

    a)   detecting with a computer of an automated banking machine for the presence of a bootable media in at least one alternative storage device drive of the automated banking machine, wherein a BIOS of the computer specifies which of a plurality of storage device drives corresponds to a default storage device drive which does not require an input of a first BIOS password, and which of the plurality of storage device drives corresponds to the at least one alternative storage device drive which does require the input of the BIOS boot password;

    b)   booting the computer responsive to a boot record on either the bootable media of the at least one alternative storage device drive or a bootable media of the default storage device drive;

        wherein when the bootable media of the at least one alternative storage device drive is detected in step (a), the booting of the computer includes requiring at least once for a user to input a password, wherein when the inputted password corresponds to the BIOS boot password stored in the BIOS of the computer, the computer is booted responsive to the boot record on the bootable media of the at least one alternative storage device drive; and

        wherein when the bootable media of the at least one alternative storage device drive is not detected in step (a), the computer is booted responsive to a boot record on the bootable media of the default storage device drive without requiring a user to input the BIOS boot password.

2. The method according to claim 1, wherein when the bootable media of the at least one alternative storage device drive is detected in step (a) and the BIOS boot password is not inputted within a predetermined amount of time, in step (b) the computer is booted responsive to the boot record of the bootable media of the default storage device drive.

3. The method according to claim 1, wherein when the bootable media of the at least one alternative storage device drive is detected in step (a) and at least once the inputted password does not correspond to the BIOS boot password stored in the BIOS of the computer, in step (b) the computer is booted responsive to the boot record of the bootable media of the default storage device drive.

4. The method according to claim 1, and further comprising:

       c)   executing at least one terminal control software component in the computer which is stored on the bootable media of the default storage device drive; and

       d)   dispensing cash from a cash dispenser responsive to at least one terminal control software component.

5. The method according to claim 1, and further comprising:

       c)   receiving a first input that is representative of a request to run a BIOS setup program; and

       d)   requiring a user to provide a second input that corresponds to the BIOS boot password stored in the BIOS prior to running the BIOS setup program.

6. The method according to claim 1, and further comprising:

       c)   receiving a first input that is representative of a request to run a BIOS setup program; and

       d)   requiring a user to provide a second input that corresponds to a BIOS program password stored in the BIOS prior to running the BIOS setup program.

7. The method according to claim 6, wherein in steps (b) and (c) both the BIOS boot password and the BIOS program password are stored in the BIOS of the computer.

8. The method according to claim 1, wherein in step (b) the default storage device drive and associated bootable media correspond to a hard drive.

9. The method according to claim 8, wherein in step (b) the bootable media of the at least one alternative storage device drive corresponds to a portable media.

10. The method according to claim 9, wherein in step (b) the portable media corresponds to a floppy disk.

11. The method according to claim 9, wherein in step (b) the portable media corresponds to a CD.

12. The method according to claim 9, wherein in step (b) the portable media corresponds to a DVD.

13. The method according to claim 9, wherein in step (b) the portable media corresponds to a portable hard drive.

14. At least one article bearing computer executable instructions operative to cause a computer in an automated banking machine to cause the automated banking machine to carry out a method comprising:

a) detecting with the computer of the automated banking machine, the presence of a bootable media in at least one alternative storage device drive of the automated banking machine, wherein a BIOS of the computer specifies which of a plurality of storage device drives corresponds to a default storage device drive that does not require an input of a first BIOS password, and which of the plurality of storage device drives corresponds to the at least one alternative storage device drive that does require the input of the BIOS boot password;

b) booting the computer responsive to a boot record on either the bootable media of the at least one alternative storage device drive or a bootable media of the default storage device drive;

wherein when the bootable media of the at least one alternative storage device drive is detected in step (a), the booting of the computer includes requiring at least once for a user to input a password, wherein when the inputted password corresponds to the BIOS boot password stored in the BIOS of the computer, the computer is booted responsive to the boot record on the bootable media of the at least one alternative storage device drive; and

wherein when the bootable media of the at least one alternative storage device drive is not detected in step (a), the computer is booted responsive to a boot record on the bootable media of the default storage device drive without requiring a user to input the BIOS boot password.

15. The at least one article according to claim 14, wherein the instructions include a file that is operative to update a flash memory device of the computer of the automated banking machine.

16. A method comprising:

a) detecting with a computer of an automated banking machine, the presence of a first bootable media in at least one first storage device drive of the automated banking machine;

b) booting the computer responsive to a boot record on either the first bootable media of the at least one first storage device drive or a second bootable media of a second storage device drive of the automated banking machine;

wherein when the first bootable media is detected in step (a), the booting of the computer includes:

determining responsive to a BIOS of the automated banking machine that the at least one first storage device drive requires a BIOS boot password;

requiring at least once for a user to input the BIOS boot password, wherein when an inputted password corresponds to a BIOS boot password stored in the BIOS of the computer, the computer is booted responsive to a first boot record on the first bootable media; and

wherein when the first bootable media is not detected in step (a) the booting of the computer includes:

determining responsive to a BIOS of the automated banking machine that the second storage device drive does not require the BIOS boot password, wherein the computer is booted responsive to the boot record on the second bootable media of the second storage device drive without requiring a user to input the BIOS boot password.

17. At least one article bearing computer executable instructions operative to cause a computer in an automated banking machine to cause the automated banking machine to carry out a method comprising:

a) detecting with the computer of the automated banking machine, the presence of a first bootable media in at least one first storage device drive of the automated banking machine;

b) booting the computer responsive to a boot record on either the first bootable media of the at least one first storage device drive or a second bootable media of a second storage device drive of the automated banking machine;

wherein when the first bootable media is detected in step (a), the booting of the computer includes:

determining responsive to a BIOS of the automated banking machine that the at least one first storage device drive requires a BIOS boot password;

requiring at least once for a user to input the BIOS boot password, wherein when an inputted password corresponds to a BIOS boot password stored in the BIOS of the computer, the computer is booted responsive to a first boot record on the first bootable media; and

wherein when the first bootable media is not detected in step (a) the booting of the computer includes:

determining responsive to a BIOS of the automated banking machine that the second storage device drive does not require the BIOS boot password, wherein the computer is booted responsive to the boot record on the second bootable media of the second storage device drive without requiring a user to input the BIOS boot password.

18. The at least one article according to claim 17, wherein the instructions include a file that is operative to update a flash memory device of the computer of the automated banking machine.

19. A method comprising:

a) detecting with a computer of an automated banking machine that a bootable media is present in at least one alternative storage device drive of the automated banking machine, wherein a BIOS of the computer specifies that a BIOS password is required for the bootable media of the at least one alternative storage device drive;

b) prompting at least once for a user to input the BIOS boot password;

c) determining that an inputted password corresponds to the BIOS boot password stored in the BIOS of the computer

d) booting software of the computer responsive to a first boot record on the bootable media of the at least one alternative storage device drive;

e) restarting the computer;

f) detecting with the computer that a bootable media is not present in the at least one alternative storage device drive; and

g) booting the computer responsive to a boot record on a bootable media of a default storage device drive without requiring a user to input the BIOS boot password.

20. At least one article bearing computer executable instructions operative to cause a computer in an automated banking machine to cause the automated banking machine to carry out a method comprising:

a) detecting with the computer of an automated banking machine that a bootable media is present in at least one alternative storage device drive of the automated banking machine, wherein a BIOS of the computer specifies that a BIOS password is required for the bootable media of the at least one alternative storage device drive;

b) prompting at least once for a user to input the BIOS boot password;

c) determining that an inputted password corresponds to the BIOS boot password stored in the BIOS of the computer;

d) booting software of the computer responsive to a first boot record on the bootable media of the at least one alternative storage device drive;

e) restarting the computer;

f) detecting with the computer that a bootable media is not present in the at least one alternative storage device drive; and

g) booting the computer responsive to a boot record on a bootable media of a default storage device drive without requiring a user to input the BIOS boot password.

21. The at least one article according to claim 20, wherein the instructions include a file that is operative to update a flash memory device of the computer of the automated banking machine.

22. An automated banking machine comprising:

a computer, wherein the computer includes a BIOS, wherein the BIOS includes a BIOS boot password, and wherein the BIOS specifies a default storage device drive which does not require a boot password;

at least one input device in operative connection with the computer;

at least one transaction function device in operative connection with the computer; and

at least one first storage device drive and a second storage device drive in operative connection with the computer, wherein the second storage device drive corresponds to the default storage device drive specified in the BIOS, wherein when the computer detects a bootable media associated with the at least one first storage device drive, the computer is operative to require a user to input a BIOS boot password through the at least one input device prior to booting responsive to a boot record associated with the bootable media of the at least one first storage device drive, wherein when the computer does not detect a bootable media associated with the at least one first storage device drive, the computer is operative to boot responsive to a boot record on a bootable media of the second storage device drive without requiring a user to input the BIOS boot password.

23. The machine according to claim 22, wherein when the bootable media of the at least one first storage device drive is detected by the computer and the BIOS boot password has not been inputted thorough the at least one input device within a predetermined amount of time, the computer is operative to automatically boot responsive to the boot record associated with the bootable media of the second storage device drive.

24. The machine according to claim 22, wherein when the bootable media of the at least one first storage device drive is detected by the computer and at least one password inputted through the at least one input device does not correspond to the BIOS boot password, the computer is operative to automatically boot responsive to the boot record associated with the bootable media of the second storage device drive.

25. The machine according to claim 22, wherein the second storage device drive and associated bootable media corresponds to a hard drive.

26. The machine according to claim 25, wherein the bootable media for the at least one first storage device drive includes a portable bootable media.

27. The machine according to claim 26, wherein the portable bootable media includes a floppy disk.

28. The machine according to claim 26, wherein the portable bootable media includes a CD.

29. The machine according to claim 26, wherein the portable bootable media includes a DVD.

30. The machine according to claim 26, wherein the portable bootable media includes a portable hard drive.

31. The machine according to claim 22, wherein the at least one first storage device drive corresponds to a first portable storage device drive and a second portable storage device drive, wherein the second storage device drive corresponds to a hard drive, wherein the BIOS includes a boot order, wherein the boot order specifies a sequence for storage device drives in which the computer is operative to attempt to boot from, wherein the boot order includes the sequence of: the first portable storage media device drive, the second portable storage media device drive and the hard drive.

32. The machine according to claim 22, wherein the computer includes a BIOS setup program, wherein the computer is operative to require that a user input through the at least one input device, the BIOS boot password prior to being granted access to modify the BIOS through the BIOS setup program.

33. The machine according to claim 22, wherein the computer includes a BIOS setup program and a BIOS program password, wherein the computer is operative to require that a user input through the at least one input device, the BIOS program password prior being granted access to modify the BIOS with the BIOS setup program.

34. The machine according to claim 22, wherein the transaction function device includes a cash dispenser, wherein when the computer has booted responsive to the boot record of the bootable media of the second storage device drive, the computer is operative to cause the cash dispenser to dispense cash responsive to at least one further input through the at least one input device.